Project Manual
for
Outdoor Basketball Court at Meyer Park

Gulf Shores, Alabama

April 2013

Prepared for the

City of Gulf Shores

Prepared by:
Hatch Mott MacDonald
P. O. Box 1290Daphne, Alabama 36526

Bid Set Number _____

HMM Project No. 300189

Outdoor Basketball Court
Meyer Park
Gulf Shores, Alabama

HATCH MOTT MACDONALD
805 Daphne Avenue P.O. Box 1290
Daphne, Al. 36526

Telephone 251/626-5514
Facsimile 251/626-7321

INDEX

TECHNICAL SPECIFICATIONS

The Technical Specifications following this page apply to All spaces. All General Conditions and Requirements in the preceding part of this book apply in their entirety to the Work, unless specifically excluded or modified in this section.

DIVISION 2 – SITEWORK

DIVISION 9 – FINISHES

CONTRACTUAL DOCUMENTS, GENERAL CONDITIONS,

SPECIAL PROVISIONS AND TECHNICAL SPECIFICATIONS,

AND INSTRUCTION TO BIDDERS

FOR

OUTDOOR BASKETBALL COURT AT MEYER PARK

CITY OF GULF SHORES, ALABAMA

April, 2013

TABLE OF CONTENTS

INVITATION FOR BIDS

Sealed Bids will be received, opened and read aloud in public session by the City of Gulf Shores, Alabama, for **OUTDOOR BASKETBALL COURT AT MEYER PARK** at 10:00 A.M., **Tuesday April 9th, 2013,** in the Gulf Shores City Hall Council Chambers. Qualified contractors are invited to Bid. This contract is for the purpose of providing all materials and labor to install the Outdoor Basketball Court at Meyer Park in conformance with the Specifications.

Copies of the plans, specifications, and contract documents may be inspected and/or obtained at the following location:

Gulf Shores City Hall
Public Works Department
1905 W. First Street
Gulf Shores, AL 36542
Telephone No. (251) 968-1156

Or

Hatch Mott MacDonald
805 Daphne Avenue
Daphne, AL 36526
Telephone No. (251) 626-5514

A mandatory pre-bid conference will be held at 11:00 A.M. on Tuesday, April 2nd 2013, in the Council Chambers in City Hall. Bids from Bidders who do not attend this conference will be rejected.

The Contractor will be required to obtain a business license from the City to operate within the Corporate Limits.

Sealed Bids may be mailed or delivered directly to the Owner prior to the bid opening. Such sealed Bids must be clearly and legibly marked **"OUTDOOR BASKETBALL COURT AT MEYER PARK"** on the outside envelope. Sealed Bids must be sent to the following address:

Mail to:	City of Gulf Shores	Physical:	City of Gulf Shores
	Post Office Box 299		1905 W. 1st Street
	Gulf Shores, AL 36547		Gulf Shores, AL 36542
Telephone No.	(251) 968-2425		

The lowest responsive, responsible Bid will be accepted with key consideration based upon the benefit to the public. However, the City of Gulf Shores, Alabama, reserves the right to reject any and all Bids, to waive any irregularity in the Bids received, and to accept or reject any items of the Bid for the benefit of the public. No conditional Bids will be accepted. No Bid may be withdrawn for a period of thirty (30) days after the scheduled closing date and time for the receipt of Bids.

THE CITY OF GULF SHORES, ALABAMA

INSTRUCTIONS TO BIDDERS

1. BID FORMS

A complete set of Bidding Documents is included herein.

2. EXAMINATION OF DOCUMENTS AND PROJECT SITE

A. Carefully examine the Bidding Documents, Specifications and the work site. Bids shall include all costs required to execute the work under the existing conditions.

B. Direct inquiries and questions to the Public Works Director in writing at macreman@gulfshoresal.gov .

C. Extra payments will not be made for conditions which can be determined by examining the documents and the site.

3. INTERPRETATIONS AND ADDENDA

A. Should the Bidder find discrepancies, ambiguities, or omissions in the Specifications, or should he be in doubt as to their meaning, he shall at once notify the Public Works Director

B. The Public Works Director will issue Addenda to clarify discrepancies, ambiguities, or omissions in the Specifications.

C. Addenda will be faxed or emailed to each bidder. Addenda shall become part of the contract and all bidders must acknowledge receipt of Addenda on their bid form or their bid will be rejected. Bidders shall be bound by ALL Addenda.

4. MODIFICATIONS AND WITHDRAWAL OF BIDS

A. Bids may not be modified after submittal.

B. Any bidder may withdraw his Bid, either personally or by written request, at any time prior to scheduled time for opening bids.

C. No Bidder may withdraw his Bid for a period of thirty (30) days after date set for opening thereof, and all Bids shall be subject to acceptance by the Owner during this period.

5. MANDATORY PRE-BID CONFERENCE

A mandatory pre-bid conference will be held prior to the bid opening. Bids from Bidders who do not attend this conference will be rejected. The date of the pre-bid conference is shown in the Invitation to Bid.

6. AWARD OF CONTRACT

A. The Owner will award a single contract, dependent upon availability of funds.

B. The contract will be awarded to the lowest responsive qualified contract, subject to Owner's right to reject any or all Bids and to waive informality and irregularity in Bids and bidding.

7. PRE-QUALIFICATION OF CONTRACTORS

Each Bidder shall be prepared, if requested by the Owner, to present evidence of its experience, qualifications, and financial ability to carry out the terms of the Contract. The Owner reserves the right to disqualify any bidder who, in the judgment of the Owner, fails to adequately demonstrate qualifications and experience sufficient to enable that bidder to successfully complete the scope of work under this Contract.

8. EXECUTION OF CONTRACT

A. Within ten (10) days of Notice of Award, the Contractor shall deliver to Owner policies of insurance or insurance certificates as required by Contract Documents. All policies or certificates of insurance shall be approved by Owner before the successful Contractor may proceed with Work.

B. The Contractor shall commence work within ten (10) days following receipt of the Notice to Proceed or on a date stipulated in the authorization to proceed.

9. LAWS AND REGULATIONS

The Contractor's attention is directed to the fact that all applicable State laws, Municipal Ordinances and the Rules and Regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout and they will be deemed to be included in the contract the same as though herein written out in full.

10. ALABAMA LICENSED CONTRACTOR

All Contractors submitting bids in excess of Fifty Thousand Dollars ($50,000.00) must be licensed Contractors in the State of Alabama and must give their License Number on their Bid Form. Contracts less than Fifty Thousand Dollars ($50,000.00) will not require a general Contractor's license; however, all other requirements shall remain the same.

11. BID BOND

All bids in excess of Fifty Thousand Dollars ($50,000) shall require a bid bond equal to 5% of contract amount or $10,000 whichever is lesser. Bid bonds will be returned by the Owner after the contract has been awarded.

12. PERFORMANCE BOND

If the winning bid is in excess of Fifty Thousand Dollars ($50,000), the Contractor shall obtain a performance bond equal to 100% of contract amount and shall be provided within ten (10) days of Notice of Award.

13. LABOR & MATERIALS BOND

If the winning bid is in excess of Fifty Thousand Dollars ($50,000), the Contractor shall obtain a Labor & Materials Payment Bond equal to but not less than 50% of contract amount and shall be provided within ten (10) days of Notice of Award. The bond shall include payment of reasonable attorney's fees incurred by successful claimants in civil actions.

14. COMPLETION DATE

A. Upon receipt of the Notice to Proceed, the Contractor shall commence the work within ten (10) days from the Date of the Notice and shall complete the work within **ninety (90)** calendar days from the date of the Notice.

B. The completion date shall not be extended except for unavoidable delays caused by, but not limited to, fires, floods, storms, strikes, accidents, or other circumstances beyond the Contractor's control. The Contractor may request additional completion time within one week from the occurrence of the delay. The Public Works Director shall be the sole judge of such "unavoidable delays", and the extent thereof. In the event that such a determination is made, the date of completion shall be extended by a length of time equal to that lost by such circumstances.

15. LIQUIDATED DAMAGES

A. Deduction at the rate of Three Hundred Dollars ($300.00) per day shall be made from the total Contract price for each and every calendar day beyond the thirty (30) days from the date of Notice to Proceed that the work remains not satisfactorily completed.

B. The above mentioned sum shall be deducted as Liquidated Damages and not as penalty, the said sum being specifically agreed upon in advance as a measure of damage to the Owner on account of the delay, and the Contract price reduced by the aggregate of the entire damages so deducted shall be accepted in full satisfaction of all work executed under the contract.

16. COMPLIANCE WITH IMMIGRATION AND NATIONALITY ACT

The City will not intentionally award publicly funded contracts to any contractor who knowingly employs unauthorized alien workers, constituting a violation of the employment provisions contained in 8 U.S.C. Bid No. 02-017-5-Section 1324a (e)

[Section 274A (e) of the Immigration and Nationality Act ("INA")]. The City shall consider the employment by any contractor of unauthorized aliens a violation of Section 274A (e) of the INA. Such violation by the Recipient of the employment provisions contained in Section 274A (e) of the INA shall be grounds for unilateral cancellation of this Agreement by the City.

Contractor is required to comply with the Immigration Reform and Control Act of 1986 (IRCA) which requires all individuals hired after November 6, 1986 to provide their employers with proof of citizenship or authorization to work in the United States. City may at any time request to inspect proof of citizenship.

REQUIREMENTS FOR ENTERING CONTRACTS WITH THE CITY
EFFECTIVE 01/01/2012

Under the "Beason-Hammon Alabama Taxpayer and Citizen Protection Act," the State of Alabama requires all City contractors (including direct vendors) and their subcontractors (including sub vendors) of any tier to refrain from knowingly employing any unauthorized alien in Alabama and, as a condition for the award of any contract to a contractor or direct vendor, for the contractor or direct vendor to document participation in the E-Verify program of the U.S. Department of Homeland Security.

ATTESTATION AND DOCUMENTATION AS TO EMPLOYMENT POLICIES REQUIRED BY THE CITY OF ALL CONTRACTORS AND DIRECT VENDORS

As a condition to the award of any contract, each contractor (including direct vendors) must provide the City with a sworn affidavit attesting that the contractor or direct vendor will not knowingly employ, hire for employment, or continue to employ any unauthorized alien within the State of Alabama. The contractor or direct vendor must also provide documentation that the contractor or direct vendor is enrolled in the E-Verify program. Failure of the contractor or direct vendor to continue to participate in the E-Verify program system and to verify every employee as required under applicable federal rules and regulations during performance of the contract will be grounds for termination of the contract.

In addition, before entering into any subcontract for the performance of a contract with the City, the contractor (including direct vendors) and each of its subcontractors (including sub vendors) of any tier should obtain from each of their direct subcontractors or direct sub vendors a sworn affidavit of the direct subcontractor or direct sub vendor attesting that the direct subcontractor or direct sub vendor will not knowingly employ, hire for employment, or continue to employ any unauthorized alien within the State of Alabama and attaching documentation establishing that the direct subcontractor or direct sub vendor is enrolled in the E-Verify system. Failure to obtain such affidavit or knowledge of violation by the direct subcontractor or direct sub vendor of the employment prohibitions of the Act may result in liability for the contractor or subcontractor as provided in the Act. The affidavits and documentation of subcontractors and sub vendors need not be filed with the City but should be retained by the contractor or subcontractor obtaining them.

Attached as Appendix A is the form of affidavit that must be provided to the City at the time of execution of any contract with the City of Gulf Shores. In the case of vendors with which the City deals on a repetitive basis, the affidavit can be placed on file with the City and refiled by January 15 of each succeeding year.

Attached as Appendix B is a form of affidavit that can be obtained from subcontractors and sub vendors.

Under the "Beason-Hammon Alabama Taxpayer and Citizen Protection Act," the State of Alabama requires all City contractors (including direct vendors) and their subcontractors (including sub vendors) of any tier to refrain from knowingly employing any unauthorized alien in Alabama and, as a condition for the award of any contract to a contractor or direct vendor, for

the contractor or direct vendor to document participation in the E-Verify program of the U.S. Department of Homeland Security.

Beginning January 1, 2012, each vendor selling directly to the City must provide the City with a sworn affidavit in the form of Appendix A in the enclosed informational package. The affidavit must attach documentation confirming that the vendor participates in the E-Verify System. **No purchase order can be issued to the vendor until the affidavit with attachments has been received.**

Please send the affidavits to:

City of Gulf Shores
Attn: City Clerk
Post Office Box 299
Gulf Shores, AL 36547

If you have any questions, please call _____ at _____.

APPENDIX A
AFFIDAVIT OF CONTRACTOR OR DIRECT VENDOR

State of _____
County of _____

Before me, a notary public, personally appeared _____ (print name) who, being duly sworn, says as follows:

As a condition for the award of any contract, grant, or incentive by the City of Gulf Shores, Alabama, I hereby attest that in my capacity as _____ (state position) for _____ (state business entity/employer/contractor name) that said business entity/employer/contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama.

I further attest that said business entity/employer/contractor is enrolled in the E-Verify program.

(ATTACH DOCUMENTATION ESTABLISHING THAT BUSINESS ENTITY/EMPLOYER/CONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM)

_____
Signature of Affiant

Sworn to and subscribed before me this ____ day of _____, 20____.

I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

_____
Signature and Seal of Notary Public

PROPOSAL FORM

TO: City of Gulf Shores
P.O. Box 299
Gulf Shores, Al 36547

BIDDER: _____
_____
_____
_____

OWNERS: City of Gulf Shores, Alabama

PROJECT: **OUTDOOR BASKETBALL COURT AT MEYER PARK**

The BIDDER in compliance with the INSTRUCTIONS TO BIDDERS having received the Plans and Specifications for the PROJECT, and having received, read, and taken into account all ADDENDA as follows: (List number and dates of each Addendum) _____
_____
_____
and having inspected the site(s) and the conditions affecting and governing the accomplishment of the PROJECT, the undersigned proposes to furnish all materials and perform all labor, as specified to complete the base bid and any alternate bid(s) for the following:

Proposal for Base Bid and Add Alternate One

Item	Description	Units	Quantity	Unit Price	Bid Total
1	Provide labor and materials to install Outdoor Basketball Court	L.S.	1		
2	Add Alternate 1: Reseal and Restripe Sims Park Basketball Courts	L.S.	2		

_____
Name of Bidder

_____
Address

_____
Telephone/Fax Number

_____
Email address

_____
Al. Contractor License No. (if applicable)

Corporate Seal

_____ _____
Witness Signature

_____ _____
Date Title

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____
(Name of Contractor)

_____, as Principal,
(Address)

and _____
(Name of Surety)

of _____, as Surety,
(Address)

are held and firmly bound unto **the City of Gulf Shores,** as oblige, in the full and just sum of:

_____

_____

lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is herewith submitting its Proposal for:

OUTDOOR BASKETBALL COURT AT MEYER PARK

The condition of this obligation is such that, if the aforesaid Principal shall be awarded the Contract, the said Principal will, within the time required, enter into a formal Contract, and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract, then this obligation to be void; otherwise, the Principal and the Surety will pay unto the full amount of said bond. If no other bids are received, the full amount of the proposal guarantee shall be so retained or recovered as liquidated damages for such default.

SIGNED, SEALED AND DELIVERED _____
(Date)

Witness as to Principal:

_____ _____
(Name of Contracting Firm)

By: _____

Title: _____

_____ (Name of Surety)

By: _____

Title: _____

BIDS WILL NOT BE CONSIDERED
UNLESS BID BOND IS SIGNED BY
PRINCIPAL AND SURETY, OR IN
LIEU THEREOF, A CERTIFIED CHECK
MUST ACCOMPANY THE PROPOSAL.

NOTICE OF AWARD

DATED:

TO:

PROJECT: **OUTDOOR BASKETBALL COURT AT MEYER PARK**

You have been awarded a contract for **OUTDOOR BASKETBALL COURT AT MEYER PARK**

.

Within ten (10) days of the date of this Notice of Award, you must deliver to the OWNER the enclosed contract documents, fully executed, signed and witnessed, and a Certificate of Insurance as follows:

2 originals - Contract
1 original - Performance Bond
1 original - Labor and Material Bond
1 original - Certificate of Insurance certifying compliance with all insurance requirements specified in the General Conditions

Within ten (10) days after receipt of the above documents, OWNER will return to you one (1) fully signed original of the Contract.

Failure to deliver the aforementioned contract documents and insurance certificate within the time specified will entitle OWNER to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited.

CITY OF GULF SHORES (OWNER)

By: _____

CONTRACT

THIS AGREEMENT, made and entered into the _____ day of _____, 2013, at Gulf Shores, State of Alabama, by and between _____**,** a corporation, hereinafter called the Contractor, and the **City of Gulf Shores, Alabama,** and/or its assigns, hereinafter called the Owner.

WITNESSETH;

That the Contractor, for the consideration hereinafter set out, hereby agrees with the Owner as follows:

1. That the Contractor shall perform all of the work in a satisfactory manner in accordance with the plans and specifications, Bid requirements and conditions, which are attached hereto and made a part hereof as if fully contained herein, for **OUTDOOR BASKETBALL COURT AT MEYER PARK.**

2. That the Contractor shall commence the work to be performed under this agreement within the Contract Time as defined in the *General Conditions*.

   All work shall be accomplished with quality in a manner which will maintain safety to life and property, and reduce to a minimum any interference with abutting property or public travel. All work shall be inspected and approved by the City Public Works Director and his staff as Owner's representatives before payment shall be made.

3. The Owner hereby agrees to pay to the Contractor for satisfactory performance of the agreement, subject to additions and deductions as provided in the contractual Documents, in lawful money of the United States as follows:_____

   _____.

4. It is mutually agreed between the Owner and the Contractor that timely performance is of the essence to this Contract, and the Contractor agrees to keep a working force on the job of the size that is adequate to perform all work in accordance with the Contractor's approved work schedule.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day and date first above written in two (2) counterparts, each of which shall, without proof or accounting for the other counterpart, be deemed an original contract.

(Corporate Seal) _____ **(Contractor)**

By: _____
Its _____
Attest: _____
Its _____

(Seal) **City of Gulf Shores, Alabama (Owner)**

By: _____
Robert Craft, Mayor

Attest: _____
Wanda Parris, City Clerk

NOTICE TO PROCEED

TO: DATE: _____

PROJECT: **OUTDOOR BASKETBALL COURT AT MEYER PARK**

You are hereby notified to commence work in accordance with the Agreement dated _____, 2013, on or before _____, 2013. The Agreement shall expire on_____.

City of Gulf Shores, Alabama (OWNER)

By _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged this _____ day of _____, 2013.

_____

By: _____

WAIVER AND RELEASE OF LIEN

FROM:

TO: **City of Gulf Shores, Alabama** (Owner of Project)

PROJECT NAME: **OUTDOOR BASKETBALL COURT AT MEYER PARK**

KNOW ALL MEN BY THESE PRESENTS:

1. The undersigned, having been employed by the **City of Gulf Shores** to furnish labor and/or materials for the referenced project, does hereby waive and release any and all lien and claim or right to lien and claim against the **City of Gulf Shores** on the referenced project on account of labor or materials, or both furnished for the referenced project.

2. The undersigned further certifies that to the best of his knowledge and belief, there are no unsatisfied or outstanding claims of any character arising out of the furnishing of labor and/or materials for the referenced project.

3. The undersigned further agree that, after execution of this document, it will defend at its expense, and save the **City of Gulf Shores** harmless from any and all claims or liens arising out of the undersigned's furnishing of labor and/or materials for the referenced project.

4. The undersigned has executed this document in order to induce the **City of Gulf Shores** to make final payment to and in no way acts as a release of any claim the undersigned may have against parties other than the **City of Gulf Shores** arising out of the furnishing of labor and/or materials for the referenced project.

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____, 2013.

_____

STATE OF ALABAMA
COUNTY OF BALDWIN
Personally appeared before me the undersigned Notary Public in and for said County and State, _____, who is known to me and who, after being duly sworn, deposes and says that the facts stated in the above affidavit are true.

_____
NOTARY PUBLIC

GENERAL CONDITIONS

1. OWNER

The Owner for **OUTDOOR BASKETBALL COURT AT MEYER PARK** is the City of Gulf Shores, Alabama. The mailing address for the Owner is Post Office Box 299, Gulf Shores, Alabama 36547.

2. LOCAL LICENSE REQUIREMENT

Attention is called to the fact that all companies performing work on this Contract must obtain a Business License from the City of Gulf Shores available at City Hall.

3. CONTRACT DOCUMENTS

The Owner will furnish the Contractor free of charge two (2) sets of plans and specifications. Additional sets may be purchased at cost to Contractor.

4. PAYMENTS AND COMPLETION

Once in each month, the Contractor may submit an Application for Payment for completed work in place on the enclosed form. Payment shall be made to the Contractor within thirty (30) days of receipt and approval of Application for Payment. The final monthly payment prior to the expiration of the Contract shall not be made until: 1) Submission by the Contractor of evidence satisfactory to the Owner that all payrolls, material bills, and other costs incurred by the Contractor in connection with the work under this contract have been paid in full including a Waiver and Release of Lien on the form included in the Contract Documents; 2) FOR CONTRACTS OF $50,000 OR MORE, legal notice of advertisement of completion has been advertised four (4) consecutive weeks in some newspaper of general circulation in Baldwin County, Alabama (approved by the Owner); 3) Final inspection of the work by the Owner. Final payment will be made to Contractor within thirty (30) days after satisfactory completion of (1), (2) and (3) above.

5. INSURANCE

General

Certificate of Insurance
Submit certificate of insurance on AIA Document G-705 entitled "Certificate of Insurance", or other suitable form provided by the Insurance Company.

Notification of Owner Re: Termination/Expiration
Each and every policy shall contain an endorsement stating that insurance company will not, prior to completion of project or any policy expiration date shown on policy and certificate, whichever occurs first, terminate policy or change any coverage therein without first mailing by registered mail, written notice of such action at least thirty (30)

days prior to termination or change, to Owner at whose request the policy and certificate are issued.

Insurance Companies
Coverage of all insurance shall be in acceptably strong companies with a minimum rating of A+AA in Best's Insurance Guide, or lacking that, must be approved by the Owner.

Owner Liability
The Contractor shall name the Owners, the City of Gulf Shores as additional insured in the Contractor Comprehensive Liability Policy.

Additional Coverage
Coverage shall include liability arising from property in care, custody and control of Contractor.

Limits of Coverage
Specific policies and amounts of coverage required are as follows:

(1) Workmen's Compensation - Employers Liability Insurance.

A. Statutory - amount and coverage as required by law of the place of building.

B. Employers Liability $100,000 minimum.

(2) Comprehensive - General Liability Insurance

A. Public Liability: Including Premises-Operations, Independent Contractors, Products-Completed Operations, Broad Form Property Damage Including Products Liability and Broad Form Contractual Liability.

1.	Bodily Injury Liability -	$100,000 per person per occurrence $300,000 aggregate per occurrence
2.	Property Damage Liability -	$100,000 aggregate per person

(3) Comprehensive - Automobile Liability Insurance including owner, nonowned, and hired vehicles.

A.	Bodily Injury Liability -	$100,000 per person per occurrence $300,000 per occurrence
B.	Property Damage Liability -	$100,000 aggregate

6. WORK SCHEDULE

After contract award, the contractor shall coordinate his work schedule with the Public Works Director. Any modifications to the established work schedule shall be first approved by the Public Works Director.

7. SANITARY FACILITIES

The Contractor shall provide on site sanitary facilities, if he so deems sanitary facilities to be necessary. No sanitary facilities shall be provided by the Owner.

8. STORAGE OF MATERIALS

All equipment and materials may be stored within the City at a location(s) approved by the Owner.

9. DISPOSAL OF MATERIALS

Any waste and excess materials shall be disposed of in a safe manner conforming to all Federal and State Occupational and Environmental Laws and Regulations including, but not limited to, the Occupational Safety and Health Act (OSHA), the Clean Air Act (CAA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Toxic Substances Control Act (TSCA), and Alabama Department of Environmental Management (ADEM) Regulations.

10. DRAWINGS AND CONTRACTUAL DOCUMENTS

The Contractual Documents shall consist of the Request for Proposals, Instructions for Bidders, Proposal, Proposal Forms, Contract, General Conditions, and Special Conditions, Technical Specifications, all amendments and addenda thereto, and Drawings attached hereto.

SECTION 02100 - CLEARING, GRUBBING, AND STRIPPING

PART 1 - GENERAL

1.1 DESCRIPTION: This Section describes the work included in clearing, grubbing, stripping, and otherwise preparing the project site for construction operations.

1.2 EXISTING TREES AND SHRUBBERY: Existing trees, shrubbery, and other vegetative material may not be shown on the drawings. Inspect the site as to the nature, location, size, and extent of vegetative material to be removed or preserved, as specified herein. Preserve in place all trees that are not specifically required to be removed for construction.

1.3 CLEARING AND GRUBBING LIMITS: All excavation and embankment areas associated with new gravity sewer construction shall be cleared and grubbed.

PART 2 - EXECUTION

2.1 PRESERVATION OF EXISTING TREES, SHRUBS, AND OTHER PLANT MATERIAL

2.1.1 All plant materials (trees, shrubbery, and plants) beyond the limits of clearing and grubbing shall be saved and protected from damage resulting from work. No filling, excavating, trenching, or stockpiling of materials will be permitted within the drip line of these plant materials. The drip line is defined as a circle drawn by extending a line vertically to the ground from the outermost branches of a plant or group of plants. To prevent soil compaction within the drip line area, no equipment will be permitted within this area.

2.1.2 When trees are close together, restrict entry to area within drip line by fencing. In areas where no fence is erected, the trunks of all trees 12 inches or greater in diameter shall be protected by encircling the trunk entirely with boards held securely by 12-gauge wire and staples. This protection shall extend from ground level to a height of 6 feet. Cut and remove tree branches where such cutting is necessary to effect construction operation. Remove branches other than those required to effect the work to provide a balanced appearance of any tree.

2.1.3 Where impact to preserved trees is unavoidable due to proposed improvements within the drip line, trees shall be root pruned by a qualified arborist prior to beginning other clearing, grubbing, stripping, or construction activity. Root pruning shall be done during the appropriate time of year and using best management practices as identified by the International Society of Arboriculture.

2.2 CLEARING AND GRUBBING

2.2.1 Clearing and grubbing shall be performed in the areas indicated and where required to provide adequate work space, including ditches, areas where fill will be placed and

where structures will be erected, and including spaces for control stakes and hubs for pipeline work. Asphalt pavement removal is to be included in the bid price for clearing, grubbing and stripping. Should such items be damaged, they shall be replaced in kind or restored to at least as good condition as that in which they were found immediately before the work was begun, at the expense of the Contractor and to the satisfaction of the Engineer.

2.2.2 All weeds, rubbish and all other obstructions resting on or protruding through the surface of the existing ground, shall be collected and satisfactorily disposed of as specified herein and in compliance with the applicable laws and regulations. All such material shall be removed to a depth of one foot below finish grade.

2.2.3 Where excavation is performed within areas cleared and grubbed, all stumps, roots over one inch in diameter, and deleterious material thereby exposed shall be removed to a depth of one foot below the excavated surface.

2.2.4 Where debris is removed from areas other than those where subsequent excavation, filling, and grading will be done, no depressions shall be left, but the resulting holes shall be filled and neatly graded to conform to the grades indicated on the drawings.

2.3 STRIPPING

2.3.1 Areas to be Stripped: All excavation and embankment areas associated with new structures, slabs, walks, and roadway shall be stripped. Stockpile areas shall be stripped.

2.3.2 Stripping: Remove and dispose of all organic sod, contaminated topsoil, grass and grass roots, and other objectionable material remaining after clearing and grubbing from the areas designated to be stripped. Stripping shall not include disposal of suitable topsoil to be stockpiled on site.

2.4 DISPOSAL OF CLEARING AND GRUBBING DEBRIS

2.4.1 All material removed in clearing and grubbing shall be removed from the project site and disposed of as promptly as practical and shall not be left until the completion of the Contract.

2.4.2 The use of herbicides or blasting in clearing and grubbing is specifically prohibited.

END OF SECTION 02100

SECTION 02200 - EARTHWORK

PART 1 - GENERAL

1.1 SCOPE: The work under this section includes the furnishing of all labor, materials, tools and equipment necessary to complete the earthwork shown on the drawings and specified herein, including rough grading.

RELATED SECTIONS:
02100 Clearing, Grubbing, and Stripping
02900 Landscape Work

1.2 GENERAL REQUIREMENTS:

1.2.1 Bidders shall examine the site of the work and make their own determination of the character of materials and the conditions to be encountered on the work, and their proposal shall be based upon their own investigations. Neither the Owner nor the Engineer shall be held responsible for variations found to exist between any soils data which may be included for information only, and actual field conditions that develop through the period of construction.

1.2.2 Underground structures and utilities shown on the drawings are located according to the best available records. However, it shall be the Contractor's responsibility to acquaint himself with all information and to locate all underground structures and utilities along the line of work in order to avoid conflict with existing facilities. Neither the Owner nor the Engineer shall be held responsible for the inaccuracies or omissions in the location or grade of facilities of this type.

1.2.3 Where actual conflicts are unavoidable, work shall be performed so as to cause as little interference as possible with the service rendered by the facility disturbed. Facilities or structures damaged in the prosecution of the work shall be repaired immediately at the Contractor's expense, in conformance with the best standard practice, to the satisfaction of the facility owner and to the extent required, including replacement.

1.2.4 Benchmarks and other reference points shall be carefully maintained and, if disturbed or destroyed by the Contractor, shall be replaced by a Professional Surveyor registered to practice in the State of Alabama, to the satisfaction of the Engineer and at no additional cost to the Owner. Location of benchmarks and other reference points not shown on the drawings but used during construction shall be recorded on the Contractor's "as-builts" of the Contract Drawings.

1.2.5 On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power operated equipment which would damage such surfaces. All surfaces which have been damaged by the Contractor's operations shall be restored to a

condition at least equal to that in which they were found immediately before work was begun. Suitable materials and methods as determined by the Engineer shall be used for such restoration.

1.2.6 Core building data, including groundwater elevations or conditions, existing piping, and structure locations as appended to these specifications and indicated on the drawings, are presented only as information that is available which indicates certain conditions found and limited to the exact locations and on the dates indicated. The inclusion of such data shall not be interpreted as an indication of conditions that may actually be encountered through the period of construction.

PART 2 - EXECUTION

2.1 STRIPPING AND STOCKPILING TOPSOIL

2.1.1 Topsoil suitable for final grading operations shall be stripped and stockpiled in for reuse. Unsuitable material shall be removed from the site and disposed of in a manner satisfactory to the Engineer at no additional cost to the Owner.

2.1.2 The Owner reserves the right to claim and use for his own benefit all excess spoil material.

2.2 GRADING

2.1.2 Grade all areas as indicated. Fill shall be brought to finish grades shown and shall be graded to drain water away from structures as required.

2.2.2 Overall Area Grading for Which No Grades are Indicated:
Within the limits of construction and outer limits of clearing and grubbing, all holes and other depressions shall be filled, all mounds and ridges cut down, and the area brought to sufficiently uniform control so that the Owner's subsequent mowing operation will not be hindered by irregular terrain. This work shall be done regardless of whether the irregularities were the result of the Contractor's operations or originally existed.

2.3 EXCESS MATERIAL:

2.3.1 Excess excavated material suitable for reuse as backfill, shall be immediately disposed of by the Contractor on site as directed by the Engineer or Owner, and at no additional cost to the Owner. Material shall be spread and graded in such a manner as to drain properly and not disturb existing drainage conditions.

2.3.2 Excess excavated material not suitable as reuse for backfill shall be immediately removed from the site and disposed of by the Contractor at no expense to the Owner.

2.4 UNSUITABLE MATERIAL: If unsuitable material is encountered, the Contractor shall immediately notify the Engineer. The Engineer shall arrange for an independent soils testing firm to define the limits of and quantify the unsuitable material to be removed and replaced. Contractor shall be responsible for the removal, disposal and replacement of unsuitable material. Wet materials will not be considered unsuitable and it is the Contractor's responsibility to dry suitable materials as necessary for use at the site.

2.5 DUST CONTROL: Dust control, if arises, will be the contractors responsibility If, in the opinion of the Owner or the Engineer, it is necessary to control dust from time to time during the progress of the work, the Contractor shall use water trucks and/or furnish and spread calcium chloride at the site of the work as directed by the Engineer at no additional cost to the Owner.

2.6 SILTATION AND EROSION: The Contractor shall take steps and make suitable provisions to minimize siltation and erosion which may result from, or as a result of, his operations during the course of construction of this project. All siltation and erosion control shall be in strict accordance with applicable local, state, and federal requirements. The contractor shall be responsible for removing all erosion control barriers upon completion of the work.

END OF SECTION 02200

SECTION 02210 - GRASSING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions apply to work of this Section.

1.2 DESCRIPTION OF WORK: Extent of grassing work is as specified or shown on the construction plans. Sodded areas disturbed during construction shall be re-sodded to match existing. All other areas disturbed during construction operations shall be seeded, unless noted otherwise on plans.

1.3 QUALITY ASSURANCE: All seed used shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of invitation for bids. All seed shall be furnished in sealed standard containers, unless exception is granted in writing by the Owner. Seed which has become wet, moldy, or otherwise damaged in transit or in storage shall not be used. Fertilizer shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes cake or otherwise damaged, making it unsuitable for use, shall not be used. Seed, fertilizer and other grassing materials shall be stored under cover and protected from damage which would make then unacceptable for use.

1.4 SUBMITTALS: Approvals, except those required for field installations, field applications, or field tests shall be obtained before delivery of materials or equipment to the project. The results of laboratory tests performed on the topsoil material shall be submitted. The reports shall include the pH level, the amount of organic matter, and available phosphoric acid and potash of the soil intended for use in the work. Certificate of conformance will be required for the following:

1.4.1. Grass seed shall be certified by registered, certified seed association or a registered testing laboratory not more than ten months prior to seeding.

1.4.2. Sprigs

1.4.3. Fertilizer

1.4.4. Topsoil

1.4.5. Lime

1.4.6. Mulching

PART 2 - PRODUCTS:

2.1 TOPSOIL: If the quantity of existing, stored, or excavated topsoil is inadequate for planting, sufficient additional topsoil shall be furnished at no additional cost to the owner. Topsoil furnished shall be a natural, fertile, friable soil, possessing characteristics of representative productive soils in the vicinity. It shall be obtained from naturally well-drained areas. Topsoil shall be without admixture of subsoil and free from Johnson grass (Sorghum halepense), nut grass (Cyperus rotundus) and objectionable weeds and toxic substances.

2.2 SOIL AMENDMENTS:

2.2.1. LIME: Ground limestone (Dolomite) shall contain not less than 85 percent of total carbonates, and shall be ground to such a fineness that 50 percent will pass a 100-mesh sieve and 90 percent will pass a 20-mesh sieve.

2.2.2. FERTILIZER: Fertilizer shall be 16-16-16 formulation. The nitrogen shall be 60% urea-formaldehyde form. Fertilizer shall conform to the applicable State Fertilizer laws and shall be granulated so that 80 percent is held on a 16-mesh screen, uniform in composition, dry and free-flowing.

2.2.3. MULCH: Clean hay or fresh straw mulch.

2.3 GRASS MATERIALS:

GRASS SEED: Federal Specifications JJJ-S-18 and shall satisfy the following requirements:

Seed	Pure Seed	and Hard Seed	Weed Seed
Centipede Grass *Eremochloa ophiuroides*	80%	15%	.25%

Seed failing to meet the purity or germination requirements by not more than twenty-five percent may be used, but the quantity shall be increased to yield the required rate of pure live seed. Seed failing to meet the weed seed requirements shall not be used.

PART 3 - EXECUTION

3.1 GRADING: Areas to be grassed shall be graded to remove depressions, undulations, and irregularities in the surface before grassing.

3.2 PLACING TOPSOIL: Areas to be grassed shall have a minimum topsoil cover of two inches. Topsoil shall not be placed when the subgrade is excessively wet, extremely dry or in a condition otherwise detrimental to the proposed planting or proper grading.

3.3 TILLAGE: The area to be grassed shall be thoroughly tilled to a depth of four inches using a plow and disc harrow or rotary tilling machinery until a suitable bed has been prepared and

no clods or clumps remain larger than 1-1/2 inches in diameter.

3.4 APPLICATION OF LIME: The pH of the soil shall be determined. If the pH is below 5.0, sufficient lime shall be added to provide a pH between 5.5 and 6.5. The lime shall be thoroughly incorporated into the top three to four inches of the soil. Lime and fertilizer may be applied in one operation.

3.5 APPLICATION OF FERTILIZER: Fertilizer shall be applied at the rate of 6 pounds per 1,000 square feet and shall be thoroughly incorporated into the top three to four inches of soil.

3.6 PLANTING SEEDS: All areas disturbed during construction shall be seeded as specified herein. Immediately before seeds are sown and after fertilizer and lime are applied, the ground shall be scarified as necessary and shall be raked until the surface is smooth, friable, and of uniformly fine texture. Areas to be grassed shall be seeded evenly with a mechanical spreader, raked lightly, rolled with a 200-pound roller, and watered with a fine spray.

3.6.1. Seed shall be applied at the following rate:

Seed	Rate of Application
Centipede Grass	6 lbs./1000 sq. ft.
(*Eremochloa ophiuroides*)	260 lbs./acre

3.6.2. Seeded areas shall be mulched at the rate of not less than 1-1/2" loose measurement over all seeded areas. Spread by hand, blower, or other suitable equipment. Mulch shall be cut into the soil with equipment capable of cutting the mulch uniformly into the soil. Mulching shall be done within 24 hours of the time seeding is completed.

3.7 ROLLING: After seeding and mulching, a cultipacker, traffic roller, or other suitable equipment shall be used for rolling the grassed areas. Areas shall then be watered with a fine spray.

3.8 WINTER COVER: All areas to be grassed shall be protected against erosion at all times. For protection during winter months (November 1st through March 31st) Italian rye grass shall be planted at the rate of four pounds per 1,000 square feet on all areas which are not protected by permanent grass.

3.9 CLEAN-UP: All excess soil, excess grass materials, stones, and other waste shall be removed from the site daily and not allowed to accumulate.

3.10 MAINTENANCE: Maintenance shall begin immediately following the last operation of grassing and continue until final acceptance. Maintenance shall include watering, mowing, replanting, and all other work necessary to produce a uniform stand of grass. Grassing will be considered for final acceptance when the permanent grass is healthy and growing on 97 percent of the area with no bare areas wider than 12 inches.

3.11 ACCEPTANCE: The Contractor shall submit to the Owner two copies of a written request for final acceptance of the grassing work. The request shall be submitted at least ten days prior to the anticipated date of acceptance. The condition of the grass will be noted, the Contractor will be notified if maintenance is to continue.

END OF SECTION 02210

SECTION 02215 - EXCAVATION, BACKFILL, AND COMPACTION

PART 1 - GENERAL

1.1 DESCRIPTION: This section includes materials, testing, and installation of earthwork for excavations, fills and embankments for structures, pavements, rights-of-way, and sites and trench excavating, backfilling, and compacting for underground pipelines and appurtenant structures. All excavation and backfill for utilities shall be in accordance with any geotechnical engineering report included with these specifications.

1.2 STANDARDS:

1.2.1 Determine the density of soil in place by the sand cone method, ASTM D1556, by nuclear methods, ASTM D2922; or by the rubber balloon method, ASTM D2167.

1.2.2 Determine laboratory options moisture-density relations of cohesive soils by ASTM D1557 (modified Proctor).

1.2.3 Sample backfill materials by ASTM D75.

1.2.4 For cohesive soils, "relative density" is the ratio, expressed as a percentage, of the inplace dry density to the laboratory maximum dry density as determined by ASTM D1557 (modified Proctor).

1.2.5 Determine the relative density of cohesionless soils by ASTM D2049.

1.3 DEFINITIONS:

1.3.1 Subgrade: The undisturbed material immediately below the bottom of an excavation, below an area of fill, or below a structure.

1.3.2 Excavation: Removal of earth or buried material, either temporarily or permanently, as specified or as necessary for construction of the project.

1.3.3 Overexcavation: Excavation exceeding that specified or shown on the plans.

1.3.4 Backfill: Earth material placed permanently in an excavated area.

1.3.5 Fill: Earth material placed permanently above the existing grade.

1.3.6 Borrow: Earth material brought from off the site to be used as fill or backfill.

1.3.7 Structural Backfill: Backfill placed beneath structures and in overexcavated areas.

1.3.8 Structures: Buildings, foundations, and other man-made, stationary features above or

below ground.

PART 2 - PRODUCTS

2.1 BACKFILL AND FILL

2.1.1 For Structures: Backfill and fill shall be clean soils that is free from clayballs contain no more than 10% by weight passing the No. 200 sieve. The gradation of this granular material shall be such as to achieve the specified compaction.

2.1.2 For pipe and appurtenance structures, conform as follows:

2.1.2.1 First Lift: From the excavation grade to a level 12 inches below the top of the pipeline. Exclude material with fragments larger than the following:

Pipe Type	Fragment Size (Greatest Dimension-Inches)
Concrete, steel, cast or ductile iron and corrugated metal	2
Vitrified Clay	1½
Polyvinyl Chloride (PVC) and Polyethylene (PE)	½

2.1.2.2 Second Lift: From the top of the First Lift to the ground surface. Exclude material with fragments larger than six inches.

2.1.3 In the event there is insufficient satisfactory material from the excavation to meet the requirements for backfill or fill material, obtain borrow which meets the requirements for backfill material from sources secured by the Contractor.

2.2 STRUCTURAL BACKFILL: Structural backfill shall be free from clayballs and shall conform to ASTM D1241, Type I, Gradation B.

2.3 WATER FOR COMPACTION: Water shall be free of acid, alkali, or organic materials and shall have a pH of 7.0 to 9.0. Provide all water needed for earthwork. Provide temporary piping, valves, and trucks to convey water from the source to the point of use. Provide any meters required if the water is taken from a public water system.

PART 3 - EXECUTION:

3.1 DEWATERING: Provide and operate equipment adequate to keep excavations free of water. Dewater subgrade to a minimum of 3 feet below the bottom of the excavation. Remove water during periods when concrete is being deposited, when pipe is being laid, during the placing of backfill, and for proper inspection and/or testing of the exposed subgrade. These

provisions shall apply during the noon hour as well as overnight. Do not drain trench water through the pipeline under construction. Avoid settlement or damage to adjacent property. Dispose of water in a manner that will not damage adjacent property or interfere with normal drainage. When dewatering open excavations, dewater from outside the structural limits and from a point below the bottom of the excavation. Obtain and comply with all required discharge permits from appropriate regulatory authorities.

3.2 EXCAVATION:

3.2.1 Excavate to the elevations shown on the drawings, to the bottom elevations of the slabs, structures, and foundations or the bottom of the roadway subbase (top of subbase if only to be compacted), whichever is the lowest elevation.

3.2.2 Perform all excavation regardless of the type, nature, or condition of the material encountered to accomplish the construction. Excavate for foundations to a point 5' horizontally behind the outside face of footings and base mats.

3.2.3 After the excavation has been completed, the Owner or his representative will observe the exposed subgrade to determine the need for any additional excavation. It is intended that additional excavation be conducted in all areas within the influence of the structure where unacceptable subgrade removal of all such unacceptable material that exists directly beneath the hole or structure for the full width of the hole or structure and to a depth required to reach suitable foundation material. Refill the overexcavated areas with structural backfill. All such overexcavation and refilling shall be executed in accordance with a change order. Payment for overexcavation and refill shall be made in accordance with the Standard General Conditions. No payment will be made by the Owner for overexcavation of wet subgrade materials. It shall be the Contractor's responsibility to dry wet subgrade materials as necessary for proper compaction and stabilization.

3.2.4 Do not carry excavation for footings, slabs, or conduits deeper than the elevations shown on the plans. Backfill overexcavations below the elevations shown to the proper elevation with compacted structural backfill material. Correct cuts below grade by similarly cutting adjoining areas and creating a smooth transition.

3.2.5 The Contractor will not receive any additional payment for overexcavation or refill material used for his convenience or which is not authorized by the Owner or his representative.

3.2.6 The Contractor shall acquaint himself with existing conditions and locate all structures and utilities within the project area in order to avoid conflicts.

3.2.7 Protect any pipes, conduits, wires, mains, footings or other underground structures encountered in trenching/excavating/backfilling from damage or displacement.

Replace any pipes, conduits, wires, mains, footings or other structures disturbed during construction.

3.2.8 Contact all utility companies with underground utilities in the project area and obtain their assistance in locating facilities prior to excavation.

3.2.9 Excavate sufficiently in advance of pipe laying to discover obstructions in time to modify alignment, if necessary, to avoid the obstruction. The Owner or his representative must review and approve such alignment modifications before they are encountered.

3.3 PREPARATION OF SUBGRADE PRIOR TO PLACING FOUNDATIONS: Excavate and shape subgrade to line, grade, and cross section. Remove soft material encountered and replace with structural backfill. Fill holes and depressions to the required line, grade, and cross sections with structural backfill. The finished subgrade shall be within a tolerance of ± 0.08 feet of the grade and cross section shown, smooth and free from irregularities, and at the specified relative density.

3.4 PREPARATION FOR PLACING FILL OR BACKFILL:

3.4.1 Remove loosened and disturbed materials at the subgrade.

3.4.2 Remove form materials and trash before placing any fill or backfill. Obtain the specified compressive strength and finish of concrete work before backfilling.

3.4.3 Do not operate earthmoving or excavation equipment within five feet of existing structures or newly completed structures. Place and compact fill or backfill adjacent to concrete walls with hand-operated tampers or other equipment that will not damage the structure.

3.4.4 Fill or backfill around water-holding basins and channels only after specified leakage tests have been conducted.

3.5 COMPACTION:

3.5.1 Unless otherwise specified or shown on the drawings, areas outside pipe trenches must meet the following compaction requirements.

3.5.1.1 Structural Backfill: 98% minimum relative density in 6-inch maximum layers.

3.5.1.2 Subgrade Underfill or Backfill: 96% minimum with an average 98% relative density to a depth of 12 inches.

3.5.1.3 Subgrade Under Structural Backfill or Structures: 96% minimum with an average 98% relative density to a depth of 24 inches.

3.5.1.4 Backfill or Fill Under Pavement: minimum 98% relative density in 9-inch maximum layers.

3.5.1.5 All Other Areas: 95% relative density in 9-inch maximum layers.

3.5.2 Compact by using methods acceptable to the Engineer (powered tampers, vibrators, etc.). Compact the first 2 feet of backfill over pipe either by hand-operated tampering devices or with powered equipment which will not damage the pipe. Flooding or puddling with water to consolidate backfill is not acceptable, except where sand is encountered and the specified density can be obtained using this method.

3.5.3 During the compacting operations, maintain material within ± 2% of optimum moisture. Aerate material containing excessive moisture by blading, discing, or harrowing to hasten the drying process.

3.5.4 Pipe and Appurtenant Structures: Unless otherwise shown on the drawings or otherwise described in the specifications for the particular type of pipe installed, compact soil in pipe trenches to the following minimum:

3.5.4.1 First Lift: 95% relative density.

3.5.4.2 Second Lift not Beneath Paving: 90% relative density.

3.5.4.3 Second Lift in Paved Areas and Under Structures: 98% relative density.

3.5.4.4 Refill for Overexcavation: 95% relative density.

3.6 SHEETING, SHORING, AND BRACING OF TRENCHES:

3.6.1 Install adequate sheeting and bracing to prevent damage to property and injury to persons. Comply with all applicable safety regulations and laws.

3.6.2 Remove sheeting when the trench has been backfilled to at least one-half its depth or when removal will not endanger proper pipe alignment or support.

3.6.3 When conditions or plans and specifications require that sheeting be left in place, cut off the top at an elevation 2.5 feet below finished grade, unless otherwise specified.

3.7 SIDEWALK, PAVEMENT AND CURB REMOVAL: Cut and remove bituminous and concrete pavements, curbs and sidewalks prior to excavation of the trenches. Width of the pavement or brick pavement cut shall be at least one foot wider than the required width of the

trench at ground surface. Haul pavement and concrete materials from the site to disposal site secured by Contractor. Do not use for trench backfill.

3.8 TRENCHING:

3.8.1 Cut trenches to a minimum width equal to the outside diameter of the pipe at the joint plus eight inches for unsheeted trenches, or 12 inches for sheeted trenches. The maximum width of trench, measured at the top of the pipe, shall not exceed the outside pipe barrel diameter plus two feet, unless otherwise shown on the plans or details.

3.8.2 Maintain vertical trench walls from the bottom of the trench to a line measured 12 inches above the top of the pipe.

3.8.3 Utility Bedding: The minimum utility bedding allowable shall consist of a shaped trench bottom which provides firm bedding for the utility pipe. Bed the pipe in undisturbed firm soil of hand-shaped unyielding material, so that the pipe will be in continuous contact therewith for its full length and provide a minimum bottom segment support for the pipe equal to 0.6 of the outside diameter of the barrel. All bedding materials and installation for pipe shall be in accordance with the manufacturers recommendations.

3.8.4 Construct special bedding as called for on the plans or in the contract documents as recommended by the pipe manufactures.

3.8.5 Excavate the trench to the lines and grades shown on the drawings with allowance for pipe thickness and for pipe base or special bedding. If the trench is excavated below the required grade, refill any part of the trench excavated below the required grade at no additional cost to the Owner. Place the refilling material over the full width of trench in compacted layers not exceeding six inches deep to the established grade with allowance for the pipe base or special bedding.

3.8.6 During trench excavation, place the excavated material only within the project area. Do not obstruct any roadways or streets. Conform to federal, state, and local codes governing the safe loading of trenches with excavated material.

3.8.7 Limit the length of open trench to 800 feet in advance of pipelaying or amount of pipe that may be installed in one working day. Complete backfilling and temporary or first layer paving not more than 1200 feet in the rear of pipelaying.

3.9 TRENCH EXCAVATION IN BACKFILL AND FILL AREAS: Construct trench excavation for pipe, pipes, or conduit in backfill or fill areas in accordance with the following procedures:

3.9.1 Construct and compact the backfill or fill to an elevation of one foot minimum over the top of the pipe or conduit to be installed.

3.9.2 Excavate trench in the compacted backfill or fill. Place pipe base material, install pipe or conduit, and backfill to 12 inches above the pipe as specified for the type of pipe used. Compact backfill above this point to the same relative density as the adjacent embankment.

3.10 STRUCTURAL BACKFILL: Place structural backfill where specified and in over-excavation areas, to the lines and grades shown or specified. Compact each layer. Stop structural backfill at least 6 inches below finished grade in all areas where topsoil is to be replaced. Moisten material as necessary to aid compaction.

3.11 TRENCH BACKFILLING:

3.11.1 Excavate bell holes at each joint to permit proper assembly and inspection of the entire joint.

3.11.2 Backfill for non-plastic pipe and appurtenant structures in accordance with the following procedures:

3.11.2.1 After pipe has been bedded, place "First Lift" material simultaneously on both sides of the pipe, keeping the level of backfill the same on each side. Carefully place the material around the pipe so that the pipe barrel is completely supported and that no voids or uncompacted areas are left beneath the pipe. Place material on the underside of the pipe in such a manner as to prevent lateral movement during subsequent backfilling.

3.11.2.2 Compact material placed within 12 inches of the outer surface of the pipe by hand tamping only.

3.11.2.3 Push the backfill material carefully onto the backfill previously placed in the "Fist Lift". Do not permit free fall of the material until at least two feet of cover is provided over the top of the pipe. Do not drop sharp, heavy pieces of material directly onto the pipe or the tamped material around the pipe.

3.11.3 Place backfill material in maximum 12 inch layers and compact each lift to the specified relative density.

3.12 SITE WORK

3.12.1 Shape the surface of earthwork to conform to lines, grades and cross sections that existed prior to beginning work or as shown on the drawings, within 1/10 of a foot. Round tops of banks to circular curves to not less than a 6-foot radius. Neatly and smoothly trim rounded surfaces. Do not overexcavate and backfill to achieve the proper grade.

3.12.2 Remove excess, unsuitable, or cleared material resulting from the facility installation from the work site and dispose of at locations secured by the Contractor.

3.13 DRAINAGE, EROSION AND SEDIMENTATION: Maintain all existing drainage patterns and control run-off from the construction area to prevent erosion, sedimentation, or flooding due to the construction.

3.14 PROTECTION OF PROPERTY

3.14.1 Protect the trunks of trees adjacent to this work by enclosure with padding or wood. Operate excavating machinery and cranes with care to prevent damage to trees, particularly to overhanging branches and limbs.

3.14.2 Do not cut branches, limbs and roots unless they are within six inches of the facility under construction. Make all necessary cuts smoothly and neatly without splitting or crushing. Neatly trim and cover the tree with healing paint at all cut or damaged portions.

3.14.3 Do not cut or operate on paved surfaces any equipment with treads or wheels which will cut or otherwise damage paved surfaces. Provide adequate protective measures to avoid damages to the paved surfaces.

3.14.4 As promptly as practicable, restore existing property or structures. Do not leave restoration until the end of the construction period.

3.15 TESTING

3.15.1 Field density tests will be made in locations reviewed by the Owner, normally in each vertical layer, and using the following approximate spacing.

3.15.1.1 Under structures, pavements, and slabs, one per 2500 square feet with at least two per structure or area.

3.15.1.2 In trenches, one every 300 feet in continuous trenches under pavements or future pavements plus one at each intersection or one every 500 feet in continuous trenches not under pavements, plus one at each driveway crossing.

3.15.2 If any field density tests are below the specified relative density, recompact or re-excavate, rebackfill and recompact the area until the specific density is obtained. Make a minimum of two field density tests per recompacted and/or re-excavated area, but do not exceed the spacing specified above.

END OF SECTION 02215

SECTION 02512 - BASE COURSE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK: Extent of base course work is shown on drawings.

1.3 SUBMITTALS: Material Certificates: Provide copies of material certificates signed by material producer and Contractor, certifying that each material item complies with, or exceeds specified requirements.

1.4 JOB CONDITIONS:

1.4.1 Graded aggregate base course may be placed when air temperature is above 30F (-1C) and rising.

1.4.2 Grade Control: Establish and maintain required lines and elevations.

PART 2 - PRODUCTS

MATERIALS:

2.1 General: Use locally available materials and gradations which exhibit a satisfactory record of previous installations.

2.2 Base Course: Materials for the graded aggregate base shall meet the requirements of Section 301 of the ALDOT Standard Specifications for Highway Construction, latest edition.

2.3 Base Course: Materials for the lime rock base shall meet the requirements of the ALDOT Standard Specifications for Highway Construction, latest edition.

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION:

3.1.1 It is the Contractor's responsibility that the finished roadbed section meets the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added. After the roadbed grading operations have been substantially completed, the Contractor shall make his own determination as to the quantity (if any) of stabilizing material, of the type selected by him, necessary for compliance with the bearing value requirements.

3.1.2 Remove loose material from compacted subbase surface immediately before applying herbicide treatment or prime coat.

3.1.3 Proof roll prepared base surface to check for unstable areas and areas requiring additional compaction.

3.1.4 Do not begin base work until deficient subgrade areas have been corrected and are ready to receive base. Dry wet subgrade materials as necessary to meet material optimum moisture content and achieve required compaction.

3.1.5 Prime Coat: Apply at rate of not less than 0.15 gallons per square yard over compacted subgrade. Apply material to penetrate and seal, but not flood, surface. Cure and dry as long as necessary to attain penetration and evaporation of volatile.

3.2 PLACING BASE: Place base course as directed in Section 301 and 821 of ALDOT Standard Specifications. Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness, as indicated on plans.

3.3 FIELD QUALITY CONTROL:

3.3.1 General: Test in-place base courses for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Engineer.

3.3.2 Thickness: In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:

3.3.3 Base Course: ½", plus or minus.

3.3.4 Surface Smoothness: The finished surface of the base course shall be checked with a template, cut to the required crown and with a 15-foot straightedge laid parallel to the centerline of the road. All irregularities greater than 1/4" shall be corrected by scarifying, and removing or adding base material as may be required, after which the entire area shall be re-compacted to meet the specified density requirements.

3.3.5 Compaction: Graded aggregate base shall be compacted to a minimum density of 98% of maximum density as determined by (AASHTO T-180). All test results are to be submitted to the Engineer prior to beginning paving operations.

3.3.6 Frequency of Field Density Test: One test per 300 linear feet of roadway or every 750 square yards of paved area.

END OF SECTION

SECTION 02520 - GRADED AGGREGATE BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of contract, including General and Supplementary Conditions and other Specification Sections apply to the work of this section.

1.2 DESCRIPTION OF WORK: This item shall consist of a base course composed of graded aggregate constructed on a subgrade prepared in accordance with the specifications and in conformity with the line, grades and typical cross-section as shown on the drawings. The construction methods shall conform to the requirements of Section 300 and 820 of the Alabama Department of Transportation (ALDOT) Standards Specifications, latest edition.

PART 2 - PRODUCTS

2.1 MATERIALS: All materials shall be secured from sources approved by the Engineer, and shall be furnished by the Contractor. Graded aggregate material shall conform to Section 300 and 820 of the ALDOT Standard Specifications, latest edition.

2.2 EQUIPMENT: The rock shall be spread by mechanical rock spreaders, equipped with a device which strikes of the rock uniformly to laying thickness, and capable of producing an even distribution of the rock. For crossovers, intersections and ramp areas; for roadway widths of 20 feet or less; for the main roadway area when forms are used and for any other areas where the use of a mechanical spreader is not practicable; spreading may be done by bulldozers or blade graders. All equipment for proper construction of this project shall be in first-class working condition.

PART 3 - EXECUTION

3.1 TRANSPORTING GRADED AGGREGATE: The graded aggregate shall be transported to the point where it is to be used, over rock previously placed if practicable, and dumped on the end of the preceding spread. Hauling over the subgrade and dumping on the subgrade will be permitted when, in the Engineer's opinion, these operations will not be detrimental to the base.

3.2 SPREADING GRADED AGGREGATE:

3.2.1 Method of Spreading: The graded aggregate shall be spread uniformly. All segregated areas of fine or coarse rock shall be removed and replaced with properly graded rock.

3.2.2 Number of Courses: When the specified compacted thickness of the base is greater than six inches, the base shall be constructed in two courses. The thickness of the first course shall be approximately one-half the total thickness of the finished base, or

enough additional to bear the weight of the construction equipment without disturbing the subgrade. When compacted thickness is less than six inches, graded aggregate shall be placed in one lift.

3.3 COMPACTING AND FINISHING BASE:

3.3.1 Single-Course Base: For single-course base, after the spreading is completed the entire surface shall scarified and then shaped so as to produce the required grade and cross section after compaction.

3.3.2 Double-Course Base: For double-course base, the first course shall be cleaned of foreign material and bladed and brought to a surface cross section approximately parallel to that of the finished base. Prior to the spreading of any material for the upper course, the density tests for the lower course shall be made and the Engineer shall have determined that the required compaction has been obtained. After the spreading of the material for the second course is completed, its surface shall be finished and shaped so as to produce the required grade and cross section after compaction, and free of scabs and lamination.

3.3.3 Moisture Content: When the material does not have the proper moisture content to insure the required density, wetting or drying will be required. When water is added it shall be uniformly mixed-in by disking to the full depth of the course which is being compacted. Wetting or drying operations shall involve manipulation, as a unit, of the entire width and depth of the course which is being compacted.

3.4 DENSITY REQUIREMENTS: As soon as proper conditions of moisture are attained the material shall be uniformly compacted to a minimum soil density of 100% of the maximum density as determined by AASHTO T 180. The minimum density that will be acceptable at any location outside of the traveled roadway is 98% of the maximum density.

3.5 TESTING SURFACE, PROTECTION, AND MAINTENANCE:

3.5.1 Density Tests:

3.5.1.1 At least one density determinations shall be made for every 300 feet of road at locations determined by the Engineer. Additional determinations may be made if deemed necessary by the Engineer.

3.5.1.2. During final compacting operations, if blading of any areas is necessary to obtain the true grade and cross section, the compacting operations for such areas shall be completed prior to making the density tests on the finished base.

3.5.2 Correction of Defects:

3.5.2.1. Contamination of Base Material: If, at any time, the subgrade material should become mixed with the base course materials, the Contractor shall, without additional compensation, dig out and remove the mixture, reshape and compact the subgrade and replace the materials removed with clean base material, which shall be shaped and compacted as specified above.

3.5.2.2. Cracks and Checks: If cracks or checks appear in the base, either before or after priming, which, in the opinion of the Engineer, would impair the structural efficiency of the base, the Contractor shall remove the cracks or checks by rescarifying, reshaping, adding base material where necessary, and recompacting.

3.5.3 Dust Abatement: Minimize the dispersion of dust from the base material during construction and maintenance operations by applying water or other dust control materials.

3.5.4 Testing Surface: The finished surface of the base course shall be checked with a templet cut to the required crown and with a 15-foot straightedge laid parallel to the center line of the of the road. All irregularities greater than 1/4 inch shall be corrected by scarifying and removing or adding rock as required, after which the entire area shall be recompacted as specified herein-before. In the testing of the surface, the measurements will not be taken in small holes caused by individual pieces of rock having been pulled out by the grader.

3.5.5 Priming and Maintaining:

3.5.5.1. Priming: The prime coat shall be applied only when the base meets the specified density requirements and the moisture content in the top half of the base does not exceed 90 percent of the optimum moisture of the base material. At the time of priming, the base shall be firm, unyielding and in such condition that no undue distortion will occur.

3.5.5.2. Maintaining: The Contractor will be responsible for assuring that the true crown and template are maintained, with no rutting or other distortion, and that the base meets all the requirements, at the time the surface course is applied.

3.5.6 Thickness Requirements:

3.5.6.1. Measurements: Thickness of the base shall be measured at intervals in such a manner that each test represents 300 feet of roadway, or as otherwise directed by the Engineer. Measurements shall be taken at

various points on the cross section, through holes not less than three inches in diameter.

3.5.6.2. Areas Requiring Correction: Where the compacted base is deficient by more than ½ inch from the thickness called for in the plans, the Contractor shall correct such areas by scarifying and adding rock. The base shall be scarified and rock added for a distance of 100 feet in each direction from the edge of the deficient area. The affected areas shall then be brought to the required state of compaction and to the required thickness and cross section.

END OF SECTION 02519

SECTION 02900 - EROSION CONTROL

PART 1 - SCOPE

This section designates the requirements for erosion control of the project site.

PART 2 - PRODUCTS

All materials used for erosion control shall conform with the requirements of ALDOT Specification Section 665.

PART 3 - EXECUTION

3.1 The Contractor shall take steps and make suitable provisions to prevent or minimize siltation and erosion which may result from, or be as a result of, his operations during the course of construction of this project.

3.2 The Contractor is cautioned that during the execution and/or maintenance of the subject project, creation of turbidity in excess of fifty (50) Jackson Units (measured in accordance with the State of Alabama's Department of Environmental Management standards) above the background level and/or directly or indirectly affecting the water quality in any waterway in such a manner as to exceed the limitation on the concentration of various constituents for such waters as prescribed in Alabama Administrative Code, is a violation of the Water Quality Standards of the State of Alabama.

3.3 Turbidity shall not exceed fifty (50) Jackson Units as related to standard candle turbidimeter above background within 100' of the construction activity, measured both upstream and downstream.

3.4 The Contractor is hereby advised that silt barriers are to be used at all waterway infringements and jurisdictional areas proposed retention ponds and drainage ditches as well as all inlets at all times during construction that siltation and erosion may occur.

3.5 The Contractor shall submit to the engineer, for written approval prior to construction, the method to be used to control siltation and erosion. The Engineer's approval of the method to be used in no way relieves the Contractor of liability in case of a citation by any federal, state, or local regulatory agency having jurisdiction thereof.

END OF SECTION 02900

SECTION 02999 - SITEWORK CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 GENERAL DESCRIPTION OF WORK COVERED: Mixing, placing, finishing and providing all related services necessary to construct all cast-in-place concrete work indicated on the civil site plans.

1.2 QUALITY ASSURANCE:

1.2.1 Comply with the latest published edition of the American Concrete Institute (ACI) and American Society of Testing and Materials (ASTM) standards and codes:

1. ACI 301 - Specification for Structural Concrete for Buildings.
2. ACI 305 - Placing Concrete in Hot Weather
3. ACI 306 - Placing Concrete in Cold Weather
4. ACI 318 - Building Code Requirements for Reinforced Concrete.

1.2.2 Manufacturer's Data: Submit manufacturer's product data with installation instructions for proprietary materials including reinforcement and forming accessories, admixtures, joint materials, hardeners, curing materials and others as requested by Engineer.

1.2.3 Laboratory Reports: Submit 2 copies of laboratory test or evaluation reports for concrete materials and mix designs as requested by Engineer.

1.2.4 Mix Proportions and Design: Proportion mixes complying with mix design procedures specified in ACI 301.

1.2.4.1. Submit written report to Engineer for each proposed concrete mix at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed and are acceptable to Engineer.

1.2.4.2. Mix designs may be adjusted when material characteristics, job conditions, weather, test results or other circumstances warrant. Do not use revised concrete mixes until submitted to and accepted by Engineer.

1.2.4.3. Use air-entering admixture in all concrete, providing not less than 4 percent or more than 6 percent entrained air for concrete exposed to freezing and thawing, and from 2 percent to 4 percent for other concrete.

1.2.5 Concrete Testing Service: Employ acceptable testing laboratory to perform materials evaluation, testing and design of concrete mixes (when required by Owner).

1.2.5.1. Sampling: ASTM C 172

1.2.5.2. Slump: ASTM C 143, one test for each load at point of discharge.

1.2.5.3. Air Content: ASTM C 173, one for each set of compressive strength specimens.

1.2.5.4. Compressive Strength: ASTM C 39, one set for each 50 cu. yds. or fraction thereof of each class of concrete; one specimen tested at 7 days, one specimen tested at 28 days, and one retained for later testing if required.

1.2.5.5. When the total quantity of a given class of concrete is less than 50 cu. yds., strength tests may be waived by Engineer, if field experience indicates evidence of satisfactory strength.

1.2.5.6. Test results will be reported in writing to Engineer, Contractor, and concrete producer within 24 hours after tests are made.

PART 2 - PRODUCTS

2.1 PRODUCTS:

2.1.1 Portland Cement: ASTM C 150, type as required.

2.1.2 Fly Ash: ASTM C 618, Type C or F.

2.1.3 Limit use of fly ash in concrete mix design to not exceed 25 percent of cement content by weight.

2.1.4 Aggregates: ASTM C 33, except local aggregates of proven durability may be used when acceptable to Engineer.

2.2 WATER: Potable.

2.3 ADMIXTURES:

2.3.1 Air-Entraining Admixture: ASTM C 260.

2.3.2 Water-Reducing Admixture: ASTM C 494, type as required to suit project conditions. Only use admixtures which have been tested and accepted in mix designs, unless otherwise acceptable. Superplasticizers are not permitted without

prior approval of Engineer.

2.4 RELATED MATERIALS:

2.4.1 Waterstops: Flat dumbbell or centerbulb type, size to suit joints, of either rubber (CRD C 513) or PVC (CRD C 572).

2.4.2 Moisture Barrier: Clear 8-mils thick polyethylene; polyethylene-coated barrier paper; or 1/8" thick asphalt core membrane sheet.

2.4.3 Membrane-Forming Curing Compound: ASTM C 309, Type I.

2.4.4 Joint Fillers:

2.4.4.1. Joint Sealer: Hot poured, non-extruding, elastic, ASTM 1190.

2.4.4.2. Performed Expansion Joint Filler: Non-extruding, bituminous fiber, ASTM D 1751.

2.4.5 Provide form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.

2.4.6 Exposed Concrete Surfaces: Material to suit project conditions.

2.5 REINFORCING MATERIALS:

2.5.1 Deformed Reinforcing Bars: ASTM A 615, Grade 60, unless otherwise indicated.

2.5.2 Welded Wire Fabric: ASTM A 185.
2.5.3 Fiberglass Reinforcement

2.6 FORMING AND PLACING CONCRETE:

2.6.1 Job-Site Mixing: Use drum type batch machine mixer, mixing not less than 1 ½ minutes for one cu. yd. or smaller capacity. Increase mixing time at least 15 seconds for each additional cu. yd. or fraction thereof.
2.6.2. Ready-Mix Concrete: ASTM C 94.

2.6.3. Formwork: Construct so that concrete members and structures are for correct size, shape, alignment, elevation and position.

2.6.3.1. Provide openings in formwork to accommodate work of other trades. Accurately place and securely support items built into forms.

2.6.3.2. Clean and adjust forms prior to concrete placement. Apply form

release agents or wet forms, as required. Retighten forms during concrete placement if required to eliminate mortar leaks.

2.6.4 Reinforcement: Position, support and secure reinforcement against displacement. Locate and support with metal chairs, runners, bolsters spacers and hangers, as required. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

2.6.5 Install welded wire fabric in as long lengths as practicable, lapping at least one mesh at both ends and sides. Tie or interlace at laps.

2.6.6 Joints: Provide construction, isolation, and control joints as indicated or required. Locate construction joints so as to not impair strength and appearance of structure. Locate isolation and control joints in slabs-on-ground to accommodate differential settlement and prevent random cracking.

2.6.7 Installation of Embedded Items: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by cast-in-place concrete. Use setting diagrams templates and instructions provided by others for locating and setting.

2.6.8 Concrete Placement: Comply with ACI, placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades affecting concrete is completed.

2.6.9 Consolidate concrete using mechanical vibrating equipment, hand rodding and tamping, so that concrete is well compacted around reinforcement and other embedded items and into forms.

2.6.10 Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placement and curing.

2.6.10.1. In cold weather comply with ACI 306.
2.6.10.2. In hot weather comply with ACI 305.

2.7 CONCRETE FINISHES:

2.7.1 Exposed-to-view Surfaces: Provide a smooth finish for exposed concrete surfaces and surfaces that are to be covered with a coating or covering material applied directly to concrete. Remove fins and projections, patch defective areas with cement grout, and rub smooth.

2.7.2 Slab Trowel Finish: Apply trowel finish to monolithic slab surfaces that are exposed-to-view or are to be covered with resilient flooring, paint or other thin film coating. Consolidate concrete surfaces by floating then finish troweling, free of

trowel marks and uniform in texture and appearance.

2.7.3 Broom Finish: Apply broom finish to monolithic slab surfaces that are exposed to view and subject to vehicular or pedestrian traffic. Consolidate concrete surfaces by floating and troweling prior to applying broom finish.

2.7.4 Curing: Begin initial curing as soon as free water has disappeared from exposed surfaces. Where possible, keep continuously moist for not less than 72 hours. Continue curing by use of moisture-retaining cover or membrane-forming curing compound. Cure formed surfaces by moist curing until forms are removed. Provide protections as required to prevent damage to exposed concrete surfaces.

END OF SECTION 02999

TEXTURED ACRYLIC COLOR SURFACING
FOR BASKETBALL COURTS AND PLAY AREAS

PART 1 GENERAL

1.1 GENERAL DESCRIPTION

A. Textured acrylic surfacing for basketball courts and similar play areas.

1.2 RELATED SECTIONS

A. Related Work
    1. Concrete
B. References
    1. American Concrete Institute (ACI)
    2. American Sport Builders Association (ASBA)

1.3 QUALITY ASSURANCE

A. If intended for sports use, surfacing shall conform to the guidelines of the ASBA for planarity.

B. Concrete shall have a vapor barrier in accordance with ASTM E-1745.

C. Concrete mixes should be placed with a water/cement ratio of .45.

D. Concrete surface should have a medium-broom finish.

E. Curing compounds should not be used unless the curing compound manufacturer specifically states the surface may be coated with water based acrylic coatings.

F. All surface coatings products shall be supplied by a single manufacturer.

G. The contractor shall record the batch number of each product used on the site and maintain it through the warranty period.

H. The contractor shall provide the inspector, upon request, an estimate of the volume of each product to be used on the site.

I. The installer shall be an authorized applicator of the specified system.

J. The manufacturer’s representative shall be available to help resolve material questions.

1.4 SUBMITTALS

A. Manufacturer specifications for components, color chart and installation instructions.

B. Authorized Applicator certificate from the surface system manufacturer.

C. Reference list from the installer of at least 5 projects of similar scope done in each of the past 3 years.

D. Current Material Safety Data Sheets (MSDS).

E. Product substitution: If other than the product specified, the contractor shall submit at least 7 days prior to the bid date a complete type written list of proposed substitutions with sufficient data, drawings, samples and literature to demonstrate to the owners satisfaction that the proposed substitution is of equal quality and utility to that originally specified. Information must include a QUV test of at least 1000 hours illustrating the UV stability of the system. The color system shall have an ITF pace rating. Under no circumstances will systems from multiple manufacturers be considered.

1.5 MATERIAL HANDLING AND STORAGE

A. Store materials in accordance with manufacturer specifications and MSDS.

B. Deliver product to the site in original unopened containers with proper labels attached.

C. All surfacing materials shall be non flammable.

1.6 GUARANTEE

A. Provide a guarantee against defects in the materials and workmanship for a period of one year from the date of substantial completion.

1.7 INSTALLER QUALIFICATIONS

A. Installer shall be regularly engaged in construction and surfacing of acrylic basketball courts, play courts or similar surfaces.

B. Installer shall be an Authorized Applicator of the specified surface system.

1.8 MANUFACTURER QUALIFICATIONS

A. System manufacturer shall be a US owned company.

B. System manufacturer shall be a member of the ASBA.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. California Products Corp., Andover, MA. 01810 / DecoTurf, www.decoturf.com

B. Substitutions: Submit requests at least 7 days prior to the bid date with a complete type-written list of proposed substitutions with sufficient data, drawings, samples and literature to demonstrate to the owner's satisfaction that the proposed substitution is of equal quality and utility to the specified product. Information must include a QUV test of at least 1000 hours illustrating the UV stability of the system.

2.2 MATERIALS

A. Patching Mix (California Court Patch Binder) - for use in patching cracks, holes, depressions and other surface imperfections.

B. Crack Filler (California Crack Filler) - for use in filling fine cracks.

C. Concrete Preparer is a specially formulated acid heat for use in neutralizing the concrete in preparation for the DecoTurf System.

D. Acrylic Wearing Surface (DecoColor MP) – for use as the finish color and texture. DecoColor MP is blended at the job site to achieve the correct surface texture.

E. Line Paint (California Line Paint) – for use as the line marking on the court/play surface.

F. Water – for use in dilution/mixing shall be clean and potable.

2.3 MATERIAL SPECIFICATIONS

A. Court Patch Binder – 100% acrylic resin blended with Portland Cement and silica sand.
Weight 8.7-8.9 lbs./gallon

B. California Crack Filler – 100% acrylic resin heavily filled with sand.
Weight 15 lbs./gallon

C. Concrete Preparer – Phosphoric Acid based surface treatment
Weight 9.5-9.6 lbs./gallon

D. DecoColor MP – 100% acrylic resin (no vinyl copolymerization constituent) with selected light fast pigments. Green shall contain not less than 10% chrome oxide.

1) Percent solids by weight (minimum) 43.0%

2) Weight 10.5./gallon

E. California Line Paint – 100% acrylic resin (containing no alkyds or vinyl constituents). Texturing shall be rounded silica sand.
Weight 12-12.3 lbs./gallon
All surfacing materials shall be non-flammable and have a VOC content of less than 100g/l, measured by EPA method 24.
Local sands may not be acceptable in the color playing surface. Sands must be approved by manufacturer to insure quality and stability.

PART 3 EXECUTION

3.1 WEATHER LIMITATIONS

A. Do not install when rainfall is imminent or extremely high humidity prevents drying.

B. Do not apply unless surface and air temperature are 50°F and rising.

C. Do not apply if surface temperature is in excess of 140°F.

3.2 PREPARATION FOR ACRYLIC COLOR PLAYING SYSTEM

A. Clean surfaces of loose dirt, oil, grease, leaves, and other debris in strict accordance with manufacturer’s directions. Pressure washing will be necessary to adequately clean areas to be coated. Any areas previously showing algae growth shall be treated with OxiCourt or approved product to kill the organisms and then be properly rinsed.

B. Holes and cracks: Cracks and holes shall be cleaned and a suitable soil sterilant, as approved by the owner, shall be applied to kill all vegetation 14 days prior to use of Court Patch Binder according to manufacturer's specifications.

C. Depression: Depressions holding enough water to cover a five cent piece shall be filled with Court Patch Binder Patching Mix: 3 gallons of Court Patch Binder, 100 lbs. 60-80 silica sand, 1 gallon Dry Portland Cement (Type I). The contractor shall flood all the courts and then allow draining. Define and mark all areas holding enough water to cover a nickel. After defined areas are dry, prime with tack coat mixture of 2 parts water/l part Court Patch Binder. Allow tack coat to dry completely. Spread Court Patch Binder mix true to grade using a straight edge for strike off. Steel trowel or wood float the patch so that the texture matches the surrounding area. Never add water to mix. Light misting on surface and edges to feather in is allowed as needed to maintain work ability. Allow to dry thoroughly and cure.

D. Acid Treatment: Concrete Preparer shall be applied to all uncoated concrete surfaces at the rate of .01 to .012 gallon per square yard. Dilute 1 gallon of Concrete Preparer with 4 gallons of potable water. Apply liberally to the surface and spread with a soft hair push broom. After the surface has dried remove any dust or latent material.

3.3 APPLICATION OF ACRYLIC COLOR PLAYING SURFACE

A. All areas to be color coated shall be clean, free from sand, clay, grease, dust, salt or other foreign matters. The Contractor shall obtain the Engineer's approval, prior to applying any surface treatment.

B. Blend DecoColor MP with a mechanical mixer to achieve a uniform mixture in accordance with manufactuurer’s requirements.
The mix ratio shall be in strict adherence to manufacturer recommendations for climate of Gulf Shores, AL and mix ratios submitted with surface coating submittal.

C. Application shall be made certified applicator and in strict adherence to manufacturer’s requirements. The mixture should be poured on to the court surface and spread to a uniform thickness in a regular pattern.

D. A total of 2 applications of DecoColor MP coating shall be made to achieve a total application rate approved by the manufacturer. No application should be made until the previous application is thoroughly dry.

3.4 LINE PAINTING

A. If intended for sports use, lines shall be carefully laid out in accordance with ASBA Guidelines and the drawings. The area to be marked shall be taped to insure a crisp line. The California Line Paint shall have a texture similar to the surrounding play surface. Application shall be made by brush or roller at the rate of 150-200 sf/gal.

3.6 PROTECTION

A. Erect temporary barriers to protect coatings during drying and curing.

B. Lock gates to prevent use until acceptance by the owner’s representative.

3.7 CLEAN UP

A. Remove all containers, surplus materials and debris. Dispose of materials in accordance with local, state and Federal regulations.

B. Leave site in a clean and orderly condition